

## CENTRAL INTELLIGENCE AGENCY

## INFORMATION REPORT

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1. The following systems of standards were used in Czechoslovak machinery production:

a. Czechoslovak Standards (Ceskoslovenske normy --- CSN,) published by the Czechoslovak Standards Association at least once a year, which were very similar to the standards published by the International Standards Association and the German DIN. Czechoslovak Standards included:

- (1) Standards for metals. These standards set requirements for the quality of metals, for the choice of metals for the various parts, and for the ways in which each metal should be cast, welded, molded, etc.
- (2) Standards for the diameters, radii, etc., of standard parts.
- (3) Standards for precision tools, such as files, drillers, etc. These standards were very comprehensive.
- (4) Standards for assembly of round machine parts within the limits of tolerances (normy pro licovani). These standards were originally used at the Skoda Works in Pilsen only, but later they became the general Czechoslovak standards. According to these standards, the fitting of round machine parts was to four degrees: rough, medium, close, and tight. The fitting, for all these degrees, was based either on the uniform shaft or the uniform bore system. The system of uniform bore was recommended because a substantially smaller number of tools were needed.

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25 YEAR RE-REVIEW

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- b. Schlesinger standards for accepting finished products. (Georg SCHLESINGER, Messung der Oberflaechenguete D51/3846 and Pruefbuch fuer Werkzeugmaschinen D52b/248, both published by Springer Verlag, most recently in 1951.)
- c. There were no uniform Czechoslovak standards for production of machine tools. Individual plants conformed to the world machine-tools standards, i.e. American, English, and German ones. In cases where there were no international standards, the plant established standards of its own, as close as possible to what international standards would probably be.
2. The official standards were rigorously adhered to by the Czechoslovak machinery producers as a whole and especially by the Bata Concern. Machinery departments of the Bata Works and later on of the Svit National Enterprise and Kovosvit National Enterprise were producing very accurate products. This outstanding quality of the machines was due to the Bata production policy, which was created by Bohuslav SEVCIK, General Manager of the Bata Machinery Production Branch until the Spring of 1945. This policy consisted in application of the following principles:
- a. Perfect conformity to the Czechoslovak Standards.
- b. Perfect conformity to the Schlesinger standards.
- c. Use of stabilized metals only. (For this purpose, metal parts were left in the sun and rain as long as possible.)
- d. The use of rough tools (such as files) was not permitted in assembling a machine.
- e. The tendency was to eliminate all manual finishing of parts produced on machines.
- f. It was forbidden to repair defective parts. They had to be scrapped and replaced by new and perfect parts. This principle, however, was abandoned after 1945.
3. The Czechoslovak machinery producers preferred universal machine tools. Special machine tools were designed and set up only when their full use was ensured, i.e. when a long-term mass production depending on these special machine tools was scheduled.
4. Most machine tools were produced from gray iron. However, when small-scale production of machine tools was scheduled, the frames were often made by welding plates and rolled stocks. Stampings were used for unimportant parts of machine tools only.
5. The Skoda Works, now the V.I. Lenin Works, in Pilsen were the largest machine shops in Czechoslovakia, where even the largest shipbuilding material was produced. Very large forgings were produced in these works. The largest Czechoslovak automobile mass production was in the Automobile Plants (Automobilove zavody) National Enterprise in Mlada Boleslav, where automobiles of the Skoda mark were produced. The largest stampings were used in the production there.
6. Both the largest punch and the largest forging press in the country were used in the Skoda Works in Pilsen.
- In 1948, the Bata Works began using the cold pressing process after an English model called Hobbing. A press of about 1,000 tn. capacity was brought to the Bata Works for this purpose from the Skoda Works. Bata used this press for production of forms for various rubber products, such as toys. During the war, this press served for shaping various arms profiles from sheets up to 20 mm. thick.

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